

UNITED STATES PATENT APPLICATION

For

**ONLINE SYSTEM AND METHOD FOR LOCATING AND REFERRING AN
AUTOMOBILE DEALER TO CUSTOMERS**

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ONLINE SYSTEM AND METHOD FOR LOCATING AND REFERRING AN AUTOMOBILE DEALER TO CUSTOMERS

BACKGROUND OF THE INVENTION

[0001] 1. *Related Applications:* This application claims the benefit of and incorporates by reference United States Provisional Patent Application No. 60/247,940, filed November 13, 2000, entitled "Online System and Method for Locating an Automobile Dealer."

[0002] 2. *Field of the Invention:* The present invention relates to a system and method for referring a particular business to a prospective customer. More particularly, the present invention is directed to referring an automobile dealer to a customer.

[0003] 3. *Background of the Invention:* Companies strive for repeat business from past or present customers. Though new customers are important to business growth, they often are responsible for a smaller percentage of revenues.

[0004] This application refers to two levels of businesses, manufacturers and dealers. This application refers to manufacturers but the term may include importers or other businesses that market and sell products through multiple dealers. Manufacturers compete among themselves. For example, one automobile manufacturer competes with all other automobile manufacturers. Automobile dealers of one manufacturer compete not only with automobile dealers of all other manufacturers, they also compete with many other automobile dealers of their own manufacturer.

[0005] Because manufacturers compete among themselves, each wants to simplify the process of having potential customers locate its dealers. In some industries, many manufactures have web sites to provide detailed product information and dealer locations. Though providing information about new products likely will stimulate increased sales by a dealer's existing customers, dealers recognize that providing information about competing dealers for the same products may

work against the dealer with the existing customers. Therefore, dealers act to retain existing customers.

[0006] Recording customers' contact information and following up with those customers is a technique that businesses commonly use to obtain repeat business. Businesses store this information at a central location where the information is accumulated and accessed later. The follow-ups include sending customers coupons, information regarding special promotions, newsletters, or birthday or holiday greeting cards. Businesses also use databases of customer contact information to research trends in the behavior of consumers and target the businesses' proper audience more accurately.

[0007] These approaches have drawbacks, however, and they have not worked very effectively. Many customers find being contacted by businesses bothersome. Many do not want to reveal personal information. Repeat sales often fail to result from the efforts. Many customers fail to act on these incentive programs. Even customers taking advantage of these incentives may not buy again from a dealer.

[0008] Manufacturers often refer prospective customers to the automobile dealer that is closest to the prospective customer. For example, it is commonly known to search for businesses and conveniently locate the closest one to a particular location through the Internet. Companies often have "locator" functions on their web sites. These "locators" usually consist of a form which prompts the customer to enter an address, and the "locator" returns the closest business locations to that address to the customer, often with a map of the location and driving directions. Some locators provide customers with a choice of two or more of the closest dealers. Still others allow customers to choose the distance they are willing to travel and then identify the dealers within that distance. This technique, however, may send a prospective customer to a new dealer. Therefore, it works against dealers who have existing relationships with customers.

[0009] Limiting dealer information for customers adversely affects manufacturers, however. Prospective customers may want a manufacturer's product but dislike their original dealer. If a Website only provides the name of the previous dealer, the customer may seek another manufacturer's product.

SUMMARY OF THE INVENTION

[0010] It therefore an object of the present invention to provide dealers or businesses with a method by which to attract past customers to return to them for business. Another object of the present invention is providing customers with multiple dealer information when appropriate and desired by the customer. It is further an object of the present invention to provide customers with a convenient way to locate a nearby dealer. It is further an object of the present invention to provide an online system and method for identifying nearby dealer locations to a customer. It is yet another object of the present invention to provide a method for identifying dealer locations to customers while giving priority to those dealer locations with which the customer has had prior business relationships.

[0011] The present invention accomplishes these and other objects by providing an automated method for referring a prospective customer to one or more prospective dealers. In one embodiment, the present invention provides a system and method for identifying those dealers closest to the customer and giving preference to those with which the customer has had previous relationships.

[0012] In one embodiment, the present invention employs a database to store customer contact information and information related to dealer locations. The prospective customer, who uses a computer, is prompted to enter personal information. The database is queried using the information entered by the prospective customer. The query checks for matching data in the customer contact database. The systems performs a search of the dealer locations nearest to the customer. The present invention recommends at least one dealer location, giving preference to those dealers where the customer has had a prior relationship. The

system then displays the results to the customer in an organized fashion, aiding the customer in easily contacting and visiting the dealer or business location.

[0013] One embodiment of the present invention provides a system and method for referring a prospective customer to an automobile dealer or service location. In one embodiment, the prospective customer views a car manufacturer's web site from his or her home or office computer or other Web-enabled device. The web site prompts the customer to enter personal information, such as the customer's name, address and telephone number. The information is communicated from the user's computer or the like, over a computer network to a server, where software compares the data to entered data already stored in a customer database. If the software finds matches, the software further queries the database to identify any automobile dealers with which the customer has had a previous relationship. The software also identifies the types of relationship the customer had such as a previous purchase, automobile service, parts' purchase or other contact. The "customer" may only have visited the dealer to look at cars without a transaction. These all constitute different types of dealer-consumer relationships.

[0014] If the software finds a match in the database for a previous customer relationship, it examines the type of relationship based on a hierarchy of types of relationships. For example, a selling (or leasing) relationship, one type of relationship, may be ranked at the top of the hierarchy, with a service relationship ranked somewhere lower in the hierarchy. The results that are returned to the customer are ordered such that the highest in the hierarchy are listed first.

[0015] This benefits the dealer because a customer who previously bought a car at a dealer probably should take precedence over a customer who has just had a car serviced. Further, dealers who have had previous sales relationships with a customer will feel entitled to have priority over other dealers who had what the selling dealers consider lower quality relationships. Therefore, the list of dealers where the customer had previous selling relationships are listed, highlighting the dealer closest to the customer's address. Dealers with other types of prior rela-

tionships are listed below the list of selling relationships because selling relationships rank highest in the hierarchy of types of relationships. In fact, the system may only display selling dealers unless the customer requests to see more dealers by clicking the appropriate button or link. Moreover, the system may even limit the number of selling dealers initially displayed. For example, the system may rank selling dealers based on the date of the selling relationship. A dealer with a ten-year-old selling relationship may be ranked below a dealer with a two-year-old selling relationship and may even be ranked below a dealer with a current service relationship.

[0016] The present invention is not limited to automobile manufacturers and dealers and can apply to many businesses. The present invention also is not limited to relationships such as “selling” and “service” but applies to many types of business that have multiple locations. Though the present invention has its greatest applicability to dealers who sell for a single manufacturer, it also can find applicability for dealers who sell products from several manufacturers.

[0017] Customers as well as the business benefit from this invention. It is a useful tool for encouraging repeat business. The present invention also makes finding acceptable dealers easier for customers who may be researching various models on a car manufacturer’s web site. The invention also benefits the manufacturer. By mating customers with dealers with whom the customer has dealt before, the customer is more likely to purchase the manufacturer’s product instead of a product from a competitor.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 is a schematic diagram of an embodiment of the system of the present invention.

[0019] FIG. 2 is a flow diagram of an embodiment of the present invention.

[0020] FIG. 3 is a flow diagram which outlines another embodiment of the present invention.

[0021] FIG. 4 is an example of a customer input screen of one embodiment of the present invention.

[0022] FIG. 5 is an example of an output screen of one embodiment of the present invention.

[0023] FIG. 6 is an example of the scheme of the database used in one embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0024] In the following description, numerous specific details are set forth to provide a thorough understanding of the present invention. One skilled in the art will appreciate that the present invention may be practiced without some or all of these specific details. In other instances, the following description does not explain all well known process steps in detail to avoid unnecessarily obscuring the present invention.

[0025] Figs. 1 and 2 illustrate one embodiment of the online system and method for referring a business or business location to a prospective customer. FIG. 1 depicts the high-level system architecture. A customer machine is typically a personal or networked computer **2** or other communications device, such as cellular telephone **4**, personal digital assistant **6**, two-way pager **8** or other web-enabled device. The customer machine includes structure that allows a customer to input information, a display, and a communication link. The customer machine connects through the Internet **12** via modem, network, cable, DSL, wireless or other connection to the system of the present invention.

[0026] The architecture of this exemplary embodiment follows the thin client paradigm where most of the functionality is pushed to the server in order to facilitate ease of maintenance and application development. The system includes a web server **10**, which is a machine or service dedicated to serving a web site and its related content. The embodiment also includes a database server **14**, which is a machine or service dedicated to the serving the database and its data. A firewall **16** may prevent customers or machines from accessing any of the com-

ponents behind the firewall **16**. In this way the customer machines have access to the web servers **10** but generally are not allowed direct access to the database server **12** or other machines behind the firewall **16**. The database server **12** maintains, among other things, various database tables with information related to customer contact information, dealer information and other related data. Each web server **10** allows selective access to the database through certain scripts and for designated purposes.

[0027] Administration of the database server **14** is limited to an authorized input computer or terminal **18**. A firewall (not shown) may prevent unauthorized access to the input computer **18**. The input computer **18** can input profile data and other data to the database after entry of appropriate access codes or passwords. This is tightly controlled for security reasons. The data may only be added to an independent sub-database of the database server **14**. Further, customer data is subsequently added to the main database server **14** only after scrutiny by the operator of the database through input computer **18**. The system also may have appropriate privacy controls so that dissemination of customer data is strictly limited.

[0028] This system also may have a mail server **20**. Access to it may also be protected by a firewall. Additionally, server **22** services the system.

[0029] As discussed previously, FIG. 1 uses the Internet. In the exemplary embodiment, the Internet **12** is a network of millions of interconnected computers. It includes systems owned by Internet service providers and information systems providers and includes communications hardware and software for handling the communications. Individual and corporate customers establish connections to the Internet in several known ways.

[0030] Information follows the flow diagram of the exemplary embodiment of FIG. 2. The first step of the dealer search process requires the past, current or prospective customer to enter personal information at **30**. The person generally enters the information on a form as part of a web site. See FIG. 4, which is dis-

cussed below. A web browser such as Netscape Navigator or Microsoft Internet Explorer displays the form on the customer's computer. Other embodiments of the present invention devices could use a PDA, cell phone or pager. Therefore, one may practice the invention without using conventional web browsers.

[0031] This information entered normally consists of the customer's first and last name and his or her address. In certain embodiments of the present invention, only the customer's name is required, and the system queries the database or other sources for a corresponding address. Similarly, in another embodiment, the customer may be required to enter his or her address only. It is preferable, however, for customers to enter their names and addresses to ensure that the correct entry in the database is identified. The customer's name may comprise first name and last name, and the customer's address may comprise the street address, city, state, and zip code. Name and address values are automatically populated if they are available in a cookie. Unless the address is used to identify or verify the identity of a customer, a zip code may be sufficient for locating nearby dealers. The form may also request additional information such as a telephone number or e-mail address. Privacy laws and regulations may limit the collection and use of such data.

[0032] Once the personal information has been entered at **30** (FIG. 2), and the form is submitted at **32**, the form is checked to see if the customer has entered all the required inputs. If the customer has not entered all of the required inputs, the server returns an error message which flags any missing inputs. Otherwise, if all the inputs are present, the server performs checks to validate the inputs. If an input is not valid (e.g., a non-existing zip code), the server generates an error message to tell the customer which inputs are not valid, and which to fix.

[0033] After the customer supplies the personal information at step **32**, software acts on the data. The software sends the data to a central processing resource where a script takes the input information, constructs queries to the database

based on this information, and filters and formats the results to be returned to the customer.

[0034] The script first opens a connection to the database. This connection may be unique to this session or may be kept open for further queries. The input parameters such as first name, last name, address, city, and zip code are arranged in a standardized format to be compared properly to the data in the database. In some cases, the input parameters may not be standardized perfectly, so the software must use the input as entered by the customer. The appropriate tables in the database are then queried, looking for matches based on last name and address. See step **36** (FIG. 2). The system counts the number of records with the same address and last name. In addition, if the software finds multiple records based on the last name, the software performs added comparisons using the first name or first and middle names.

[0035] If the system finds an address without a name match, several things could have happened. The person searching may share a last name (e.g., family member) with a past customer. The customer may have changed addresses and a new person with the same last name may have moved to that address. Also, people change names and may use initials, middle names or nicknames while searching. The address may have multiple residences (e.g., an apartment building or college dormitory). In addition, an error could have occurred. Matching records that exist in the database are recorded in an array for further analysis. The program can modify its output based on chosen criteria.

[0036] If, in step **36** (FIG. 2), the system determines that a match exists, the database is further queried to determine what relationships the customer had. Those relationships include the type of relationship (e.g., purchase, test drive, inquiry, service, parts purchase) for each dealer with which the relationship occurred. Furthermore, a stored procedure is executed to link dealer attributes for a dealer. In the exemplary embodiment, the relationship dealers are sorted between selling dealers and servicing dealers. Selling dealers are put ahead of

servicing dealers in the exemplary embodiment. Selling or servicing dealers are sorted separately by most recent contact date in descending order (most recent first).

[0037] Thus, in FIG. 2, the system determines at step **36** whether a match exists. If a match does exist, the system proceeds along path **38** and returns the dealer matches and contact types. See step **40**. The results are displayed at step **46**. Normally, the most recent selling dealer would be displayed first followed by the other selling dealers. They would be followed by the most recent servicing dealers. The system would eliminate duplicates to list only once a dealer who sold to and serviced the customer. Queries to the database can be combined into a single SQL statement.

[0038] The system may discard relationships older than a predetermined number of years. Depending on the number of each type of dealer and the format of the display, all dealers may not fit on a page. If so, the system may display a "more dealers" button.

[0039] Otherwise, if the system finds no matching records, step **36** answers "no." The system proceeds along path **42** to step **44**. There, the system searches for the dealer closest to the entered address. The results are displayed to the customer at step **46**.

[0040] Depending on the criteria selected, the customer may have matched dealers (earlier sale or service relationship) with geographically closest dealers. Duplicates are eliminated. If the system finds a matched dealer, the system could hide the geographically closest dealers. The latter dealers would be displayed only if the searcher clicks on a button or other link.

[0041] FIG. 3 illustrates one embodiment of the process steps involved with displaying the search results. The software at decision **60** determines if the user had a previous selling relationship with any dealers. If "yes," the software displays those dealers at step **62**. A user may not want information about any of the dealers that are displayed, or he or she may want to see other dealers anyway. For

example, the selling dealer may be distant or inconveniently located, or the customer may have developed a poor relationship with that dealer. Similarly, the customer merely may be curious about other dealers or may want to widen his or her choice. Therefore, the user wants to display more dealers. If so, the user will click the “view more” icon or other indicator at **64**.

[0042] Choosing to view more dealers causes the software to determine at **66** if other selling relationships exist. Similarly, if the answer to prior selling relationships had been “no” at **60**, the software will also look to query **66**. This other selling relationship is optional and could include dealers that the user has previously contacted without completing a sale. It may also include other types of relationships such as a person who refers a customer (e.g., a parent of an adult child where the child purchases from the dealer). Again, if the software at decision **66** determines if the user had a previous other selling relationship with any dealers, the software displays those dealers at step **68**. If the user clicks the “view more” icon at **70** or if query **66** returns a “no,” the software queries for previous service relationships at query **72**. If there are such relationships, the software displays them. See step **74**. If no service relationships exist or if the user clicks “view more” at **76**, the software locates the nearest dealers at **78** and displays the results at **80**.

[0043] The display for each dealer may have links to additional information such as how to obtain a price quote, a map, driving directions, or other features. To obtain price information, the customer would fill in other forms including vehicle model, options and related information. The map and driving directions may store the customer’s address, or the customer may be required to fill in a more detailed address form. The system likely would provide driving directions through links with a specialized mapping web service. The display also may show photographs of the dealership, hours of operation or other graphic and text information.

[0044] In this particular embodiment, the system software decides how much information is to be displayed on each web page at a time. For example, in this

particular embodiment the data is divided into three sets of dealer information to be displayed. Each set of data is preferably displayed on a separate page, including a link to another page which include additional sets of data. The first set of data, the page of selling dealers, is displayed on the first page. The second page comprises the first and second sets of data; selling and service dealers. All selling and service dealers and their geographic vicinity are shown on third page.

[0045] The total number of pages will differ, depending on the results of the search. For example, if the customer search results in no dealer relationships detected in the database, then only one page of data may be displayed.

[0046] The list of dealers to be displayed is populated in an array. Depending on which page is to be displayed, the array will have selling dealers, selling plus servicing dealers or all dealers. The array contains all the necessary data to be displayed on the page for the customer. The system performs a check for the number of dealers to display to ensure that it is non-zero. Otherwise it redirects to a main search page with an error message. A cookie is also generated to indicate the current page number being displayed. This cookie is used to bring the customer to the correct page number if the customer goes to another page and then comes back to the dealer locator.

[0047] The software also prevents repeat displays for each dealer if the selling, service, and local dealers are the same.

[0048] Another feature of the present invention includes locating a nearby business based on the consumers address (zip code). This functionality requires the ability to code addresses geographically and to determine distance between two addresses. Vicinity.com is the service that allows location of dealers based on the distance from the dealer to another location, such as a customer's residence. Vicinity.com provides maps for display as well as driving directions. Vicinity.com provides a list of dealers sorted by ascending order of distance (nearest to farthest) based on the consumer's address and dealer type. Vicinity.com provides various application programming interfaces (APIs) to service Internet queries

such as these. The Vicinity remote API or "VRAPI" is written to communicate with the Internet site. Exemplary embodiments communicate with the Internet site Vicinity.com or other similar sites or database through the use of a visual basic object, which opens an Internet connection, presents URL data for receiving the data from the opened Internet connection, and then closes the connection.

[0049] FIG. 4 is an exemplary screen shot that the user could use from his or her browser for entering information. FIG. 4 shows only the basic screen. As described above, this page presents the first step of the dealer search process. The customer enters personal information on the form to execute a dealer search. The dealer search emphasizes consumer-dealer relationships. The exemplary embodiment shows four forms fields, street address or cross-street **120**, city and state or zip code **122** and a known dealer **124**. Note that FIG. 4 does not have a field to enter the user name. It assumes that the user name is self-populating. The screen could be modified to add a name field or first and last name fields. The screen can denote required fields with an asterisk. The "dealer" field normally would be optional, and "street address" also may be an option. The form can populate fields automatically if a cookie is present with this information. After the customer completes the appropriate fields, he or she clicks the "submit" button **130** to submit the form information.

[0050] FIG. 5 is a screen shot of a possible results page that is displayed to the customer in one embodiment of the present invention. This page displays the dealer list based upon the customer input entered into the page of FIG. 4. This page displays the dealer list in three different sections. The first part of the display is a map **140**. In this case, it is a map of West Los Angeles, California. Vicinity.com provides this map. It shows community or city names, freeways and some major streets. Landmarks also may be identified. One mark **142** also shows the location of the user's address. As is common, the user can re-center the map and zoom it in or out by following instructions on the screen.

[0051] The map also shows the location of the dealers found in the query. In this case, three dealers were located as shown by the logos **144**, **146** and **148**. The logos are numbered based on proximity to the user's location. In this case, logo **144** is marked with a "1" because it is the closest of the three. Logos **146** and **148** are marked with a "2" and "3," respectively.

[0052] The dealer at logo **144** is in text below the map. In this case, the dealer name, address and telephone number of the dealer at logo **144** is displayed at **150**. If the dealer has its own website, that information is provided at a hyperlink **152** below the dealer's name and address. Likewise, if the dealer corresponds with clients using e-mail, an e-mail hyperlink **154** is provided below the dealer name and address. If the user wants driving directions from his or her location to the dealer, clicking on the hyperlink at **156** provides that information. In the exemplary embodiment, Vicinity.com provides the directions.

[0053] A similar text listing is provided for the dealer at logo **146** at text section **158**, and text section **160** provides the text for the dealer at logo **148**. Depending on the user's previous dealings with one or more of the dealers shown in FIG. 5, the user may have had a previous sale, service or no contact with one or more of the dealers. Further, it may be coincidental that the dealer at logo **144** is listed as "1." If the user had purchased a vehicle from one of the dealers shown, that dealer normally would be listed as dealer "1." Further, if a dealer is not shown on map **140**, but the user had a previous selling relationship with that dealer, that dealer could be listed as dealer "1." The map may have to be zoomed out to show that location. The dealer also would be listed first in the text section. Depending on the way that the software is programmed, some or all of the currently displayed dealers may not be shown on the first page.

[0054] FIG. 5 also has the "search for more dealers" button **162** that allows the user to display more dealers. These dealers also may be shown with a map if desired.

[0055] FIG. 6 shows the relationships between several tables in the database in an exemplary embodiment of the present invention. In this embodiment, the database is divided into several different tables. Customer information table **180** contains information such as the customer name, address, city, and state. The software uses this table to find matching records. The information that the customer enters in the fields of table **180** is compared to customer information in the existing database in table **182**. The information in table **182** is gathered during previous customer contacts with the dealer. It includes information such as the customer's name and address that is used to compare with the information that the user enters in table **180**.

[0056] Table **184** contains information about the customer that is added after the user provides information to one of the dealers. For example, if the user tells a dealer that he or she is interested in a particular model, the dealer or someone authorized by the dealer or manufacturer enters the model in the relevant field of table **184**. That information can be made available to other dealers when the user contacts those dealers. The remaining two tables **186** and **188** contain dealer information. When the software finds a match between the customer in tables **180** and **182**, table **182** has a dealer number for past contacts. The dealer number is also in tables **186** and **188**. Table **186** shows the type of contact that a customer had with that dealer, and table **188** shows the information for that dealer. For example, table **188** contains the dealer's address, which is used for proximity location between the user's residence.

[0057] The present invention is not limited to returning results based on the type of prior relationship found. In one embodiment of the present invention, contact information stored in the database may include a ranking by the customer of their experience with each dealer. Perhaps a customer bought a car at one dealer and also has received service at another dealer. According to one embodiment of the present invention, the selling relationship would be listed first. However it is possible that the customer's experience at the service dealer was much more pleas-

ant than the experience at the selling dealer. In this case, results may be ordered by a customer satisfaction rating, for example, which had been recorded in the database.

[0058] Though the exemplary embodiment of the present invention has been discussed with reference to separate dealers and manufactures, the invention is applicable to a single business with multiple locations. A customer may be more likely to buy repeatedly from that single business if he or she deals with the same salespeople for repeat business. Thus, the system could identify the salesperson with whom the customer dealt as well as other locations of the business at closer distances.

[0059] Those skilled in the art will understand that the preceding embodiments of the present invention provide the foundation for numerous alternatives and modifications thereto. These other modifications are also within the scope of the present invention. Accordingly, the present invention is limited solely by the claims that follow.